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PATENT

REMARKS

No claims have been amended herein. After entry of this Letter To Patent and Trademark Office claims 1-10 and 12-14 will be pending in this case. Applicant respectfully requests reconsideration and allowance of all pending claims.

1. Rejection of Claims 1, 4-7, and 12-13 Under 35 U.S.C. §102(b)

Reconsideration is requested of the rejection of claims 1, 4-7, and 12-13 under 35 U.S.C. §102(b) as being anticipated by JP 62081470A.

Claim 1 is directed to an elastic attachment adhesive composition comprising between about 70% and about 90% rubber-based adhesive, and between about 10% and about 30% crystalline polymer having a degree of crystallinity of at least about 40%. The rubber based adhesive is selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene). The elastic attachment adhesive composition is suitable for bonding together a first elastomeric substrate and a second substrate.

JP 62081470A discloses a hot-melt adhesive composition comprising (A) 5-70wt%, preferably 10wt% to 50wt%, copolymer obtained by the hydrogenation of a styrene-isoprene-styrene block copolymer or styrene-butadiene-styrene block copolymer; (B) 10-70wt% tackifier having a softening point of 60-150°C; and (C) 10-75wt% of crystalline polypropylene (e.g., a powdery polypropylene prepared by polymerizing propylene or by decomposing an isotactic polypropylene) having a number-average molecular weight of 20,000

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or less. Optionally, another polymer (e.g., an ethylene-propylene copolymer), a wax, an extender oil, or an aggregate can be utilized.

Significantly, JP 62081470A fails to disclose and enable an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive. This is a requirement of claim 1 and is a significant aspect of Applicant's invention.

As stated in M.P.E.P. §2131, a claim is anticipated only if each and every element of the claim is described in the prior art reference. Further, as stated in M.P.E.P. §2131.03 (Anticipation of Ranges), "when the prior art discloses a range which touches, overlaps, or is within the claimed range¹, but no specific examples falling within the claimed range are disclosed,² a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with 'sufficient specificity' to constitute an anticipation under the statute." M.P.E.P. §2131.03 further defines 'sufficient specificity' as being fact dependent. For example, if the claims are directed to a narrow range, the reference teaches a broad range,³ and there is evidence of

¹Applicant asserts that this is the case in the present application: the reference discloses 5wt% to 70wt%, and claim 1 requires about 70wt% to about 90wt%. As such, the "70wt%" requirements touch.

²As noted below, the reference fails to disclose any Examples that show a composition that falls within applicant's claimed range of about 70wt% to about 90wt%.

³Applicant further asserts that this is the case here; claim 1 of the present application claims between about 70wt% and about 90wt% and the reference discloses the broad range of 5wt% to 70wt%. Whereas applicant only claims a range covering about 20%, the reference discloses, but does not enable, a range covering

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unexpected results within the claimed narrow range⁴ . . . it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims. In *Ex parte Thumm* the examiner had rejected as anticipated Thumm's claims including a requirement of 0.25% to 2.5% ethylene diamine on the basis of a prior Cox patent disclosing use of an amine, e.g., ethylene diamine, in molar proportions corresponding to substantially overlapping ranges of "0.86 to 8.6%" and "0.86 to 3.44%" (preferred). 132 USPQ 66, 68 (PTO Bd. of Apps. 1960). In overturning the rejection, the Board of Patent Appeals stated:

It is evident from the first two full paragraphs in column 8 of the [Cox] reference that the amount of amine, based upon the weight of cellulose, covers a rather broad range. The range specified in the appealed claims is much narrower and, although the two ranges overlap to a certain extent, such circumstance does not preclude the grant of a patent when the applicant satisfactorily establishes that he obtains results which are unobvious and unexpected and that his claims do not read upon a particular embodiment of the reference.

Applicant asserts that this instant case is similar to *Ex parte Thumm*.

As noted above, JP 62081470A discloses an adhesive composition comprising a copolymer having the broad range of 5-70wt%, and preferably requiring from 10-50wt% of such copolymer. However, as shown in the working Examples and as set forth in the

65%, or more than three times that of applicant.

⁴Applicant has shown such results in the Examples of the specification as discussed below.

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Table on page 11 of the reference, the amounts of copolymer actually utilized in the various adhesive compositions evaluated were actually 15wt%, 28wt%, and 24.5wt%. These values are far below the broadest endpoint range of 70wt% set forth in the reference. As such, the reference fails to disclose any specific Examples anywhere near the disclosed 70wt% range.

As such, the principal teaching that one skilled in the art would take away from a thorough reading of JP 62081470A is that substantially less than 70% of the copolymer, and even substantially less than the end point of the preferred range (50wt%) should be utilized in preparing the adhesive composition. Both the preferred range and the working examples support an amount substantially less than that of the upper limit of 70wt% set forth in the reference. Accordingly, JP 62081470A cannot fairly be deemed to teach or suggest an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive as required by claim 1.

In the final Office action, the Office asserts that because applicant has not provided a showing of unexpected results with regards to values greater than 70wt% to about 90wt%, and considering the instant claims recite "about 70%", the JP '470 reference has provided sufficient specificity for 70wt% to anticipate the instant claims. Applicant respectfully disagrees.

JP '470 discloses that "an amount in excess of 70wt% [of rubber based adhesive] may not only reduce the adhesive strength but [will] also adversely affect the fluidity when the adhesive is being heated and melted, and this is undesirable."⁵ Applicant asserts that the instant application provides unexpected results

⁵JP 62081470A at page 4.

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as it provides improved adhesive blends for use with elastic substrates, wherein the adhesive blends comprise a rubber based adhesive well in excess of 70wt%, specifically using from 70wt% to 90wt% rubber based adhesive.

As evidence of the improved adhesive property, Applicant notes Example 1, in which the bond strength (ability to hold an elastic strand in place under tension) was measured for elastic strands using various blends of rubber-based adhesives and isotactic propylene compared to the rubber-based adhesives alone by using the Creep Resistance Test, which is described in the instant specification on page 39, line 6 through page 40, line 13.⁶ The three adhesive compositions of the present invention tested included 82wt%, 85wt%, and 86wt% rubber based adhesive. This is more than 70wt%, the non-enabled endpoint suggested in the reference.

As can be seen from the results of Example 1, a blend of 82% H2525A rubber-based adhesive/18% isotactic polypropylene had age creping values of 18.5% and 27.8%; a blend of 85% H2800 rubber-based adhesive/15% isotactic polypropylene had age creping values of 9.3% and 11.1%; and a blend of 86% NS-5610 rubber-based adhesive/14% isotactic polypropylene had age creping values of 37% and 56.5%. When compared to the controls, which resulted in age creping values of 90% and 85% for the NS-5610 rubber-based

⁶As described in the instant specification, the Creep Resistance test measures bond strength of adhesives by attaching an elastic strand in between two polypropylene spunbonded layers with the adhesive; fully extending the elastic strand with a weight; letting the strand snapback; placing the strands in an oven at 100°F for 90 minutes and then again stretching the strand and measuring the snapback. The amount of snapback was then used to calculate age creep values. Lower age creep values correspond to the adhesives having a higher bond strength.

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adhesive, 41.7% and 69.4% H2525A rubber-based adhesive, and 15% and 17.6% H2800 rubber-based adhesive the rubber-based adhesive blends comprising a rubber-based adhesive in an amount in excess of 70wt% in combination with a crystalline polypropylene form a stronger bond (i.e., have greater adhesive properties) than conventional rubber-based adhesives alone. These results are surprising and unexpected based on a reading of the prior art.

Based on the foregoing, Applicants have shown unexpected results over the JP 62081470A reference. Further, as stated above, the JP 62081470A reference fails to disclose an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive with sufficient specificity to anticipate claim 1. As such, claim 1 is novel and patentable over the cited reference. Claims 4-7, and 12-13 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

2. Rejection of Claims 1-5, 12 and 14 Under 35 U.S.C. §102(e)

Reconsideration is requested of the rejection of claims 1-5, 12 and 14 under 35 U.S.C. §102(e) as being anticipated by Mori (U.S. 6,248,834).

Claim 1 is discussed above.

Mori discloses a thermoplastic elastomeric composition comprising 100 parts by weight of a chlorinated polyethylene, from 5 to 1,000 parts by weight of a crystalline polyolefin resin and from 20 to 1,500 parts by weight of a rubber component. The rubber component can be a hydrogenated styrene type rubber obtained by hydrogenating a block polymer prepared from a polymer block of styrene or its derivative and a conjugated diene.

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Preferred dienes can include isoprene and butadiene. The crystalline polyolefin resin is a homopolymer or a copolymer of an α -olefin having from 2 to 20 carbon atoms.

Significantly, as with JP 62081470A, Mori fails to disclose an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive. This is a requirement of claim 1 and is a significant aspect of Applicant's invention.

As stated above, a claim is anticipated only if each and every element of the claim is described in the prior art reference.⁷ As further stated above, under M.P.E.P. §2131.03 (Anticipation of Ranges), when the prior art discloses a range which overlaps the claimed range, but no specific examples fall within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with 'sufficient specificity' to constitute an anticipation under the statute. Applicant asserts that Mori, as JP 62081470A, does not disclose Applicant's subject matter with "sufficient specificity" to anticipate claim 1.⁸

As noted above, Mori discloses a thermoplastic elastomer composition comprising the broad range of 20 to 1,500 parts by weight of a rubber component. When considering the other required components, this is equivalent to a range of from about

⁷M.P.E.P. §2131.

⁸M.P.E.P. §2131.03, as discussed above, defines "sufficient specificity" as being fact dependent. For example, if the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range...it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of claims.

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1.8% (based on the total weight of the thermoplastic elastomer composition) to about 93% (based on the total weight of the thermoplastic elastomer composition) of the rubber component. This broad range does overlap Applicant's claimed range of 70% to 90% for the rubber component. However, a close review of the working Examples and Table 1 shows that the amount of rubber component actually enabled by the various adhesive compositions disclosed in the cited reference ranged from about 12% (based on the total weight of the thermoplastic elastomer composition) to about 57% (based on the total weight of the thermoplastic elastomer composition). More specifically, when the working examples use styrene/butadiene/styrene block copolymer as the rubber component, as required by Applicant's claim 1, the amount of rubber component utilized in various adhesive compositions evaluated were 12%, 35.7%, and 50%. These values are far below the broadest endpoint range of 93% as set forth in the reference. Furthermore, these values are far below the lower limit of 70% as required in the instant invention.

Claim 1, as discussed above, requires a range of 70% to 90% rubber based adhesive. The principle teaching that one skilled in the art would take away from a thorough reading of Mori is that substantially less than 70% of the rubber component should be utilized in preparing the adhesive composition; Mori actually fails to enable one skilled in the art to anything above about 57%. All of the working examples support an amount substantially less than that of the lower limit of 70% as required in the instant invention. Because Mori does not set forth a sufficient enabling disclosure of the subject matter in instant claim 1, the Office has failed to show that Mori discloses each and every limitation with sufficient specificity to anticipate claim 1.

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Simply setting forth extremely broad ranges without an enabling disclosure does not constitute anticipation. As such, claim 1 is novel and patentable over the reference.

Claims 2-5, 12 and 14 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

3. Rejection of Claims 6-10 and 13 Under 35 U.S.C. §103(a)

Reconsideration is requested of the rejection of claims 6-10 and 13 under 35 U.S.C. §103(a) as being unpatentable over Mori (U.S. 6,248,834).

Claim 6 depends from claim 1 and further requires that the crystalline polymer has a number-average molecular weight between about 3,000 and about 200,000. Claim 1 is patentable for the reasons set forth above. Claim 1 has not been rejected under 35 U.S.C. §103(a). Therefore, claim 6, which depends from claim 1, is patentable for the same reasons as claim 1 above. Specifically, the cited reference fails to provide an enabling disclosure of an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive. Claims 7-10 and 13 also depend directly from claim 1 and are patentable for the same reasons as claim 1, as well as for the additional elements they require.

In view of the above, Applicant respectfully requests favorable reconsideration and allowance of all pending claims.

It is believed that no fees are due in connection with this Letter to the Patent and Trademark Office. If, however, the

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Commissioner determines that a fee is due, he is hereby
authorized to charge such fee to Deposit Account No. 19-1345.

Respectfully Submitted,



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*Attachment

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